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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,755	01/14/2000	KOJI SHIRAKI	MIT-B895	5476

30132 7590 01/15/2003

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EXAMINER

GRAY, JILL M

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 01/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/462,755	Applicant(s) SHIRAKI ET AL.	
	Examiner Jill M Gray	Art Unit 1774	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 75-148 is/are pending in the application.
- 4a) Of the above claim(s) 90-98, 100-104 and 111-148 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 75-89, 99 and 105-110 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 75-77, 80-82, 85-88 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, claim 75 is vague because this claim recites the components of the hydraulic reinforcing material but does not provide a clear positive recitation of the structural relationship of these components and thereby clearly identifying the resultant fiber-compounded hydraulic reinforcing material. In particular, the language of “and remains flexible until contact with water, said reinforcing material hardening upon contact with water” is drawn to the future intended use of the reinforcing material and adds no patentable weight. In addition, the language of “wherein said inorganic powder is bound to said reinforcing fiber by said organic binder” appears to be process limitations which add no patentable weight to the product in the absence of clear factual evidence to the contrary. Also, the preamble is misleading because the language of “fiber-compounded” implies being compounded in a matrix material, wherein the claim appears to embrace powder coated fibers.

A suggested claim is:

A flexible hydraulic fiber reinforcing material comprising:
reinforcing fiber having unhardened dry hydraulic

Art Unit: 1774

inorganic powder adhered thereto;

wherein said inorganic powder is adhered by an organic binder; and

said fiber reinforcing material hardens upon contact with water.

Claim 76 is indefinite because the long fibers and webs are not clearly defined.

The language of "in the form of..." embraces various embodiments resulting in an open-ended Markush grouping and it is not clear if these embodiments are intended to be a part of the claim or merely exemplary (which is impermissible).

Claims 77 and 82 are indefinite because the volume percent does not contain units. The suggested amount is 0.1-40% by vol.

Claim 80 is indefinite because the language of "obtained by wrapping" is a process limitation, whereas this claim is drawn to a product and does not provide clear concise limitations drawn to the package per se.

Claim 81 is vague for the reasons set forth in claim 75 and is indefinite because this claim, while drawn to the hardened reinforcing material, does not provide a positive recitation of limitations that clearly distinguish this claim from claim 75, nor does this claim provide positive limitations that result in the hardened reinforcing material. A suggested claim is:

A hardened reinforcing material comprising:

hydrated fiber-reinforcing material;

wherein said fiber reinforcing material comprises

reinforcing fiber having unhardened dry hydraulic

inorganic powder adhered thereto; and

Art Unit: 1774

wherein said inorganic powder is adhered by an organic binder and said fiber reinforcing material hardens upon contact with water.

Claim 88 is vague and indefinite for the reasons set forth in claims 75 and 81 above and a suggested claim is as suggested for claim 81 above, and specifies that the reinforcing fibers are short fibers.

Claim 85 is vague and indefinite for the reasons set forth in claims 75 and 81.

Claim 86 is indefinite because this claim sets forth multiple inventions, i.e. the hardened reinforcing material of claim 81, or a laminate or an assembly. This is improper because a claim should set forth a single invention or embodiment and limitations drawn thereto or include related inventions as specific groupings, as in the case of Markush groups.

Claim 87 vague for the reason set forth in claim 81 and is indefinite because it is not clear how this claim further limits claim 81. The structural relationship is not clearly defined. It is not clear whether the hardened reinforcing material is loose fibers or the reinforcing fiber.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1774

4. Claims 75-89, 99, 105-110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 62-2226848, translation, for reasons of record.

The Japanese patent teaches in the translation a high strength fiber composite material comprising a reinforcing fiber having a covering layer. The first embodiment (page 3) teaches carbon fibers that are mixed into a cement based paste containing a cement paste, mortar, and acrylic emulsion and taken out of said mixture in a state whereby the cement paste is adhered on the surface of the fibers and thereafter dried. In addition, the translation teaches that this composite material is compounded with a cement based structural material to provide a structural material. In the third embodiment (page 5) the translation teaches reinforcing fibers dipped in a resin containing slurry viscous material and thereafter covering the fiber surface with inorganic powder or granules. The resin containing slurry viscous material is a cement solution obtained by dissolving in acrylic emulsion, styrene butadiene rubber, melamine resin or etc. The resultant high strength fiber composite material is mixed with a structural material such as cement or mortar and cured or hardened. In addition, the reinforcing fibers can be short fibers. It is noted that the translation does not teach that the cement paste is hardened or cured on the reinforcing fiber in either embodiment. Accordingly, it is examiner's position that the high strength fiber composite material of the first and third embodiments of the Japanese patent translation, upon drying, would result in inorganic powder bound to a reinforcing fiber by an organic binder, wherein said inorganic powder is unhardened, dry hydraulic inorganic powder. Regarding claims 109-110, it would have been obvious to choose the particular form of the

Art Unit: 1774

reinforcing fibers commensurate with the desired end use. For example, in the repair or formation of a wall, which could require the reinforcement in the form of woven fiber or bridge support, which could require twisted cables or strands. Therefore, it is the position of the examiner that the prior art teachings would have rendered obvious the fiber compounded hydraulic reinforcing material, hardened reinforcing material and method of producing of the present claims.

5. Claims 75-89, 99 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent partial translation No. 61-163154.

The partial translation teaches fiber reinforced cement products wherein the surfaces of reinforcing fibers have fine powder particles such as cement and silica powder attached by an adhesive. In addition, the partial translation teaches that the reinforcing fibers are mixed with cement, an aggregate, and water, formed into the desired configuration and hardened. The reinforcing fiber can be carbon fiber and the adhesive is an organic binder. Presumably the fine powder particles are dry and unhardened. Accordingly, it is the examiner's position that the teachings in the partial translation would have rendered obvious the invention as claimed in the present claims.

Response to Arguments

6. Applicant's arguments filed October 30, 2002 have been fully considered but they are not persuasive.

Applicants argue that Japanese Patent translation No. 62-226848 teaches a water-based product and that there is no suggestion of a dry hydraulic inorganic powder adhered to the reinforcing fibers via an organic binder.

Art Unit: 1774

In this regard, it is the examiner's position that the translation teaches coating the reinforcing fibers and drying said coated fibers, which necessarily results in reinforcing fibers having dry inorganic powder adhered thereto. Applicants' product claims are not specific to the hydraulic inorganic powder being dry prior to coating onto the reinforcing fiber. Nonetheless, the subject matter defined by the invention as set forth in the product claims appears to embrace a fiber coated with dry unhardened hydraulic inorganic particles, which is obviated by the product of the Japanese Patent translation. As to the binder being a water based product, it is noted that the third embodiment is not limited to acrylic emulsions.

Accordingly, applicants have not clearly defined that which they regard as their invention.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M Gray whose telephone number is 703.308.2381. The examiner can normally be reached on 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 703.308.0449. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.5408 for regular communications and 703.305.3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0651.

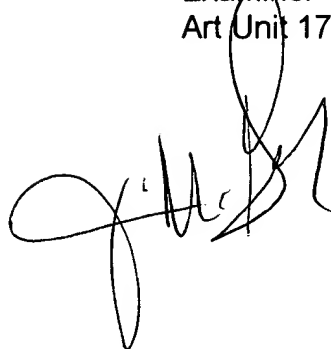
Application/Control Number: 09/462,755

Page 8

Art Unit: 1774

Jill M Gray
Examiner
Art Unit 1774

jmg
January 13, 2003

A handwritten signature in black ink, appearing to read 'Jill M Gray', is written over the printed name and title.